



UNITED STATES PATENT AND TRADEMARK OFFICE

10/20
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,814	06/26/2003	Koichi Hayashi	238289US0CONT	2770
22850	7590	08/25/2004	EXAMINER	
OBOLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			SHIPPEN, MICHAEL L	
			ART UNIT	PAPER NUMBER
			1621	

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/603,814	HAYASHI, KOICHI	
	Examiner	Art Unit	
	MICHAEL L. SHIPPEN	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-5 is/are pending in the application.
 - 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-5 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/26/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112¹

Claims 1-5 are rejected under 35 USC 112, second paragraph, as failing to particularly point out the claimed invention. It cannot be determined what is or is not within the purview of the expressions "bisphenol compound" or "pyridine compound". The normal meaning of bisphenol and pyridine would suggest these compounds per se; however, it appears that the claim language is intended to read on a diverse myriad of derivatives thereof. It cannot not be determined from the instant claims or disclosure which derivates are or are not within the purview of the claims.

Claim Rejections - 35 USC § 102²

Claims 1, 3 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 4,177,343. See the examples. It is considered that the claim language "bisphenol compound" reads on the bisphenol polycarbonates of the reference.

¹ The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 112 that form the basis for the rejections under this section made in this Office action:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

² The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 4,423,252. In Example 1 there is an indication that less than 2 ppm of nitrogen is present in the phenol reactant, note line 39 of column 3. This is presumably in the form of the 3-pyridinemethanethiol that had been added. After reaction with acetone, no 3-pyridinemethanethiol was detected, note lines 4-7 of column 4. It would appear that at least 1 ppt of 3-pyridinemethanethiol would be present. First, around 2 ppm was present initially at the start of the reaction and was not detected at the end of the reaction. At some point when the bisphenol is formed the 3-pyridinemethanethiol is present in the claimed range even if the amount is decreasing during the reaction. It is noted that the claims do not require an isolated product, merely reciting bisphenol compound, and read on the reaction mixture as the product is formed. Second, the prior art product was tested for amine only at ppm (10^6). Such testing would not reveal ppt (10^{12}). That is, 1 ppt could not have been detected by an analysis that is sensitive only to ppm. Since ppt is such an infinitesimal amount, the prior art reaction mixture and/or product would inherently contain at least this amount of 3-pyridinemethanethiol. While it is noted that applicants allege in the specification that amount that would be leached from a cation exchange resin would be well below 1 ppt, there is no evidence of such. Moreover, the prior art example uses as the phenol reactant, the phenol solvent used in the resin modification which would be expected to result in 3-pyridinemethanethiol be present from the modification step in addition to any that may leach out after modification. It is further pointed out the claims read on the reaction

mixture before purification wherein a larger amount of 3-pyridinemethanethiol would be present.

Claim Rejections - 35 USC § 103³

Claims 1, 3, 4 and 5 rejected under 35 U.S.C. 103(a) as being unpatentable over USP 4,177,343. The reference is applied as above. Besides the bisphenol compound exemplified, the reference suggest that other bisphenol compounds can be used rendering such other composition obvious, note column 2. Also, the reference suggests that removal of pyridine is desirable. As such, it would be obvious that further removal of pyridine below the amounts exemplified would be of benefit rendering such compositions an obvious modification of the prior art compositions.

Claims 1-5 rejected under 35 U.S.C. 103(a) as being unpatentable over USP 4,423,252. The reference is applied as above. Besides the pyridinealkylthiol exemplified, the reference suggest that a variety of other pyridine compounds could be used, note column 1. Interchange of these pyridinealkylthiols in the prior art process would result in bisphenol products and/or reaction mixtures inherently containing the other pyridinealkylthiols in the claimed range for reasons given above.

³ The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 rejected under 35 U.S.C. 103(a) as being unpatentable over JP-57-120,541. The reference teaches a process forming a bisphenol compound in the presence of pyridinealkylthiols. Isolation and purification of the product would inherently result in a composition containing as least 1 ppt of the pyridinealkylthiol since it would be an impossibility to remove the pyridinealkylthiol completely. Furthermore, one would be motivated to remove as much as possible of the pyridinealkylthiol since larger amounts would be undesirable. As such it would be obvious to further purify, if necessary, to lower the amount of pyridinealkylthiol below the claimed 10 ppm.

Conclusion

The remaining references are cited as of interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Michael L. Shippen** whose telephone number is **(571) 272-0647**. The Examiner's normal tour of duty is 7:30 AM to 4:00 PM. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is **(571) 272-1600**. The official group FAX machine number is **703-872-9306**.

MShippen
August 23, 2004



MICHAEL L. SHIPPEN
PRIMARY EXAMINER
ART UNIT 1621